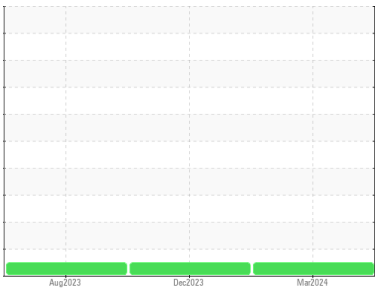
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
542178
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- QTS)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. No other contaminants were detected in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0120695**	PCA0115265	PCA0104237
Sample Date		Client Info		**18 Mar 2024**	26 Dec 2023	23 Aug 2023
Machine Age	mls	Client Info		**45596**	34997	19473
Oil Age	mls	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	N/A	Not Changd
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**100**	73	52
Chromium	ppm	ASTM D5185m	>20	**5**	4	2
Nickel	ppm	ASTM D5185m	>4	**1**	<1	<1
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m	>3	**<1**	<1	<1
Aluminum	ppm	ASTM D5185m	>20	**104**	89	51
Lead	ppm	ASTM D5185m	>40	**3**	0	0
Copper	ppm	ASTM D5185m	>330	**271**	281	284
Tin	ppm	ASTM D5185m	>15	**6**	7	7
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	**23**	28	37
Barium	ppm	ASTM D5185m	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185m	50	**49**	47	43
Manganese	ppm	ASTM D5185m	0	**4**	4	4
Magnesium	ppm	ASTM D5185m	950	**619**	605	576
Calcium	ppm	ASTM D5185m	1050	**1850**	1694	1681
Phosphorus	ppm	ASTM D5185m	995	**800**	821	765
Zinc	ppm	ASTM D5185m	1180	**967**	976	970
Sulfur	ppm	ASTM D5185m	2600	**2282**	1898	2601

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**9**	8	7
Sodium	ppm	ASTM D5185m		**7**	5	5
Potassium	ppm	ASTM D5185m	>20	**253**	206	118

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1.8**	1.4	0.9
Nitration	Abs/cm	*ASTM D7624	>20	**13.2**	11.4	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**26.5**	24.7	22.9

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**28.1**	24.9	21.9
Base Number (BN)	mg KOH/g	ASTM D2896		**6.4**	7.9	8.2

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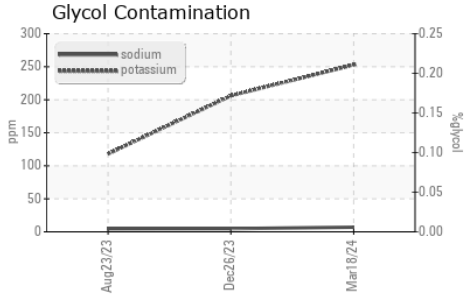
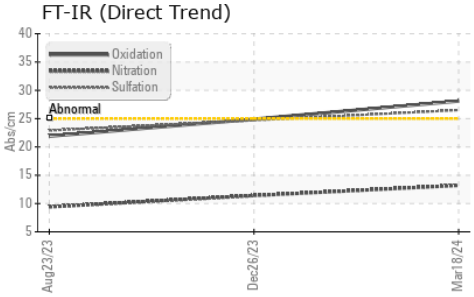
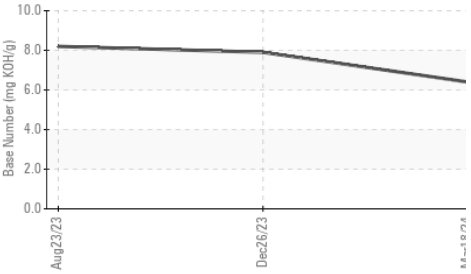
Glycol Contamination



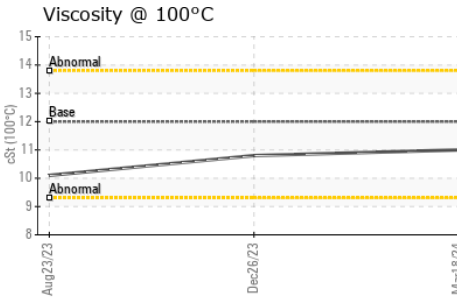
FT-IR (Direct Trend)



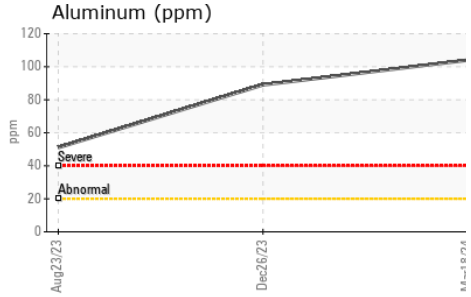
Base Number



Viscosity @ 100°C



Aluminum (ppm)

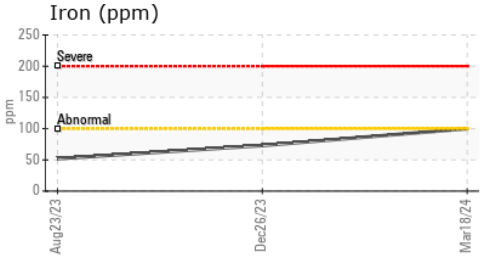


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

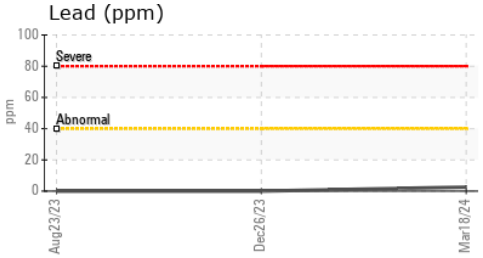
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	**11.0**	10.8	10.1

GRAPHS

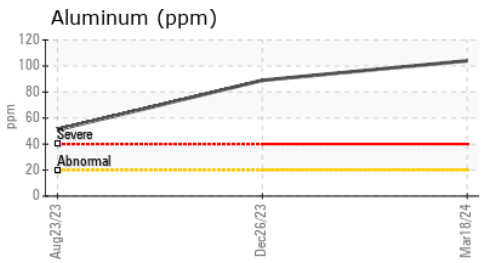
Iron (ppm)



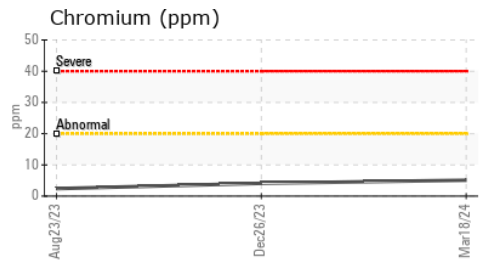
Lead (ppm)



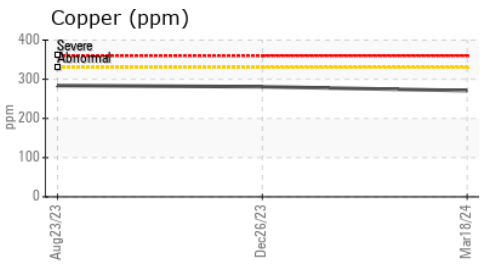
Aluminum (ppm)



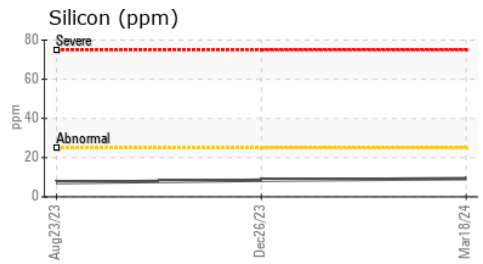
Chromium (ppm)



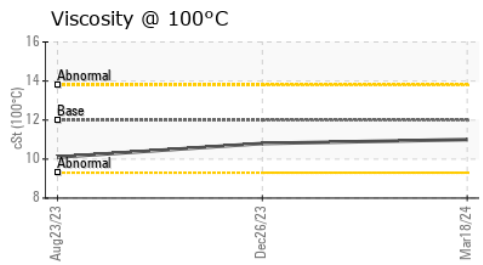
Copper (ppm)



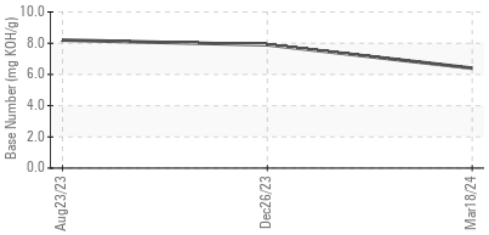
Silicon (ppm)



Viscosity @ 100°C



Base Number



ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0120695
Lab Number : 06136117
Unique Number : 10955582
Test Package : MOB 1 (Additional Tests: TBN)

Received : 02 Apr 2024
Tested : 03 Apr 2024
Diagnosed : 04 Apr 2024 - Don Baldridge

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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